

Appl. No. 09/931,276
Reply to Final Office Action of September 22, 2005

Docket No. RTN-122PUS

REMARKS

The above-identified patent application has been amended and Applicants respectfully request the Examiner to reconsider and again examine the claims as amended in accordance with the provisions of 37 C.F.R. §1.116.

Claims 1-18 are pending in the application. Claims 1-18 are rejected. Claims 1-5 and 7-12 are amended herein in order to improve clarity and not for reasons of patentability, as will be apparent.

As an initial matter with regard to the rejections discussed more fully below, Applicants make note that seven references are used among the various rejections, and that there are six different rejections using different combinations of the seven references. Applicants submit that the great number of references and rejections suggests that the Examiner has used impermissible hindsight in his rejections. It has been well established that it is impermissible to use the inventor's disclosure as a "road map" for selecting and combining prior art disclosures. In re Fritch, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992).

In further support of the above submission, MPEP §2141 states:

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:

- (A) The claimed invention must be considered as a whole;
- (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and
- (D) Reasonable expectation of success is the standard with which obviousness is determined.

Now turning to the specific rejections set forth in the Office Action:

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The Rejections under 35 U.S.C. §112, First Paragraph

The Examiner rejects Claim 1 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Examiner asserts that the claim contains subject matter, which was not described in the specification. Notably, the Examiner asserts that the claimed "...antenna adapted to provide a plurality of radar beams..." cannot be found in the specification.

Applicants have corrected herein a typographical error made in an earlier Amendment to the specification, which Amendment was filed on December 31, 2003. In the previous Amendment, a patent application number, left blank in the original application, but identified by title and filing date in the original application, was incorrectly entered. The patent application number should be 09/931,636 as identified above, not 09/931,631 as entered by amendment on December 31, 2003.

The above patent application, incorporated by reference in the patent application as filed, provides the basis for the claimed "...antenna adapted to provide a plurality of radar beams..." In accordance therewith, in order to move the case forward, Applicants have further amended the specification as recited above, to include a brief description of the claimed antenna as recited in patent application 09/931,636.

Since the matter of the amended specification was incorporated by reference in the originally filed patent application, Applicants submit that no new matter has been added by the amendments to the specification. Thus, Applicants submit that Claim 1 is now proper under 35 U.S.C. §112, first paragraph.

In view of the above, Applicants submit that the rejection of Claim 1 under 35 U.S.C. §112, first paragraph, should be removed.

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The Rejections under 35 U.S.C. §103(a)

Gauthier et al. in View of Schwarz et al. and Yu

The Examiner rejects Claims 1, 2, 4, 8, 13, and 15 under 35 U.S.C. §103(a) as being unpatentable over Gauthier et al. (U.S. Patent number 5,303,205) in view of Schwarz et al (U.S. Patent number 6,508,325) and further in view of Yu (U.S. Patent number 6,084,540). The Examiner recognizes that Gauthier et al. "...does not specifically disclose the claimed radar system having a plurality of radar beams; and attachment means for portably attaching the side object detection radar transceiver to a vehicle..." The Examiner relies upon Schwarz et al. as teaching the claimed attachment means and apparent also relies upon Schwarz et al. to teach the plurality of radar beams. The Examiner further relies upon Yu as teaching the claimed antenna having a plurality of radar beams. The Examiner concludes that "...it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of having a plurality of radar beams, and attachment means coupled to the side object detection radar transceiver, as disclosed by Schwarz, as well as a radar transceiver including an antenna for providing a plurality of radar beams, with the system of Gauthier..."

As the Examiner is aware, and as found in MPEP §2142, in order to establish a prima facie case of obviousness "...the prior art reference (or prior art references when combined) must teach or suggest all the claim limitations." Applicants respectfully submit that the Examiner has not met this burden in order to establish prima facie obviousness.

Applicants submit that Claim 1 is patentably distinct over Gauthier, whether taken alone or in combination with Schwarz et al. and Yu, since the cited references neither describe nor suggest "... attachment means coupled to the side object detection radar transceiver and adapted to portably attach the side object detection radar transceiver to a vehicle," as set forth in amended Claim 1.

The Examiner asserts that Schwarz et al. teaches the claimed attachment means for portably attaching the side object radar detection system to a vehicle. However, contrary to the

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Examiner's assertion, Applicants submit that Schwarz et al. does not teach the claimed attachment means for portably attaching the side object radar detection system to a vehicle. In contrast, as recognized by the Examiner, Schwarz et al., in FIG. 2, shows a sensor carrier assembly 10, including a carrier 18, which can be mounted to the front or rear of a vehicle. Applicants submit that the carrier 18 of Schwarz et al. provides attachment means for permanent attachment of the carrier 18 to the vehicle.

The Examiner apparently also uses Schwarz et al. to teach "a plurality of radar beams." However, Applicants submit that Schwarz et al. does not describe or suggest the claimed "...antenna adapted to provide a plurality of radar beams..." In contrast, Schwarz et al. provides, for example, in FIG. 1, a plurality of sensors 26. Schwarz et al. describes that "...sensors 26 generally define a radar transmitter/receiver pair integral in a single sensor assembly." (column 3, line s 8-10). Applicants submit that each sensor 26 of Schwarz et al. is a transmitter/receiver pair and each has only one beam.

The Examiner uses Yu to teach the claimed antenna adapted to provide a plurality of radar beams. However, Applicants submit that Gauthier et al. teaches away from the combination of Gauthier and Yu suggested by the Examiner. For example, at column 5, line 42 to column 6, line 8, Gauthier describes:

A plurality of transceivers 60 functioning as obstruction distance sensors are mounted on a rear bumper 26 of vehicle 20. The transmitters/receivers emit an ultrasonic acoustic energy wave having a frequency of 40 to 50 kiloHertz (kHz) rearward from the vehicle into a detection space immediately behind the vehicle.

...

Each transceiver 60 emits ultrasonic acoustic energy in a conical pattern.

...

Rear array 62 of transceivers 60 in combination with associated processing and control circuitry described below provides complete sensor coverage to detect and provide range information to obstructions located within ten feet of the rear of the vehicle.

...

In addition to rear collision avoidance provided by rear sensor array 62, transceivers can be mounted along a side of the vehicle to provide augmented collision avoidance. [emphasis added]

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Therefore, Gauthier describes a vehicle distance measuring system for which coverage in a "detection space" is provided by a plurality of sensors, each sensor having a single beam with a "conical pattern." By providing the coverage of the detection space with the plurality of sensors, Gauthier teaches away from the claimed "...antenna adapted to provide a plurality of radar beams..."

As the Examiner is also aware, and as found in MPEP §2142, in order to establish a prima facie case of obviousness "...there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." Applicants respectfully submit that the Examiner has not met this burden in order to establish prima facie obviousness.

As described above, Gauthier describes a vehicle distance measuring system for which coverage in a "detection space" is provided by a plurality of sensors, each sensor having a beam with a "conical pattern." Therefore, Gauthier does not contemplate that the detection space of Gauthier could instead be covered by an antenna having a plurality of radar beams as claimed.

Furthermore, Applicants submit that Yu is concerned with distinctly different problems than the problems addressed by the present invention, and therefore, one of ordinary skill in the art faced with the problems addressed by the claimed invention would not look to the Yu for a solution. The claimed invention, mounted on a host vehicle, is directed toward detection of other vehicles in a blind spot of the host vehicle. In contrast, Yu is directed toward "[I]mproved methods and arrangements...for determining the direction of a jammer." [column 1, lines 54-55]

Still further, Applicants submit that Claim 1 is not obvious over the cited references since the Claimed "side object detection radar transceiver including an antenna adapted to provide a plurality of radar beams" in a portable arrangements provides a side object detection system that fulfills a long felt but unresolved need, that of automatic detection of objects in a vehicle blind spot. For many years, others have attempted to solve this problem, as evidenced by some of the

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references cited by the Examiner. None of the techniques described in the references have been fully successful, and therefore, none have been produced.

Furthermore, Applicants submit that the single beam systems for automotive applications cited by the Examiner are burdened with technical problems in real life situations. For example, such systems are unable to distinguish a vehicle in a blind spot from a guard rail in a blind spot. Only Applicants have recognized the extent of this and other related problems and have provided a solution using a multi-beam arrangement. Details of the solution are further discussed in those patent applications incorporated by reference.

In view of the above, Applicants submit that Claim 1 is patentably distinct over Gauthier, whether taken alone or in combination with Schwarz et al. and Yu.

Claims 2, 4, 8, 13, and 15 depend from and thus include the limitations of Claim 1. Thus, Applicants submit that Claims 2, 4, 8, 13, and 15 are patentably distinct over the cited references at least for the reasons discussed above in conjunction with Claim 1.

Applicants submit that Claims 13 is further patentably distinct over Gauthier et al, whether taken alone or in combination with Schwarz et al., since the cited references neither describe nor suggest "... the radar display is adapted to be mounted so as to be visible to an occupant of the vehicle in a rear view mirror of the vehicle," as set forth in Claim 13. With this arrangement, the display is visible in the mirror glass. With regard to 13, the Examiner states that "...Gauthier discloses the claimed radar display coupled to the side object detection radar transceiver, which is met by a mirror display system 40, on the outside rear view mirror... ." However, Applicants can find no mention in Gauthier et al. of a display visible in the rear view mirror as claimed.

In view of the above, Applicants submit that the rejection of Claims 1, 2, 4, 8, 13, and 15 under 35 U.S.C. §103(a) should be removed.

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Gauthier et al. in View of Schwarz et al., Yu, and Marcus

The Examiner rejects Claims 3 and 7 under 35 U.S.C. §103(a) as being unpatentable over Gauthier et al. in view of Schwarz et al., Yu, and further in view of Marcus et al. (U.S. Patent number 6,124,647). The Examiner recognizes that Gauthier et al. does not teach "...the claimed radar display is portably attached to the interior of the vehicle..." The Examiner relies upon Marcus et al. as teaching "...an information display located in the interior or exterior of the vehicle..." The Examiner concludes that "...it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of a radar display attached to the interior of the vehicle, as disclosed by Marcus, with the system of Gauthier..."

Claims 3 and 7 depend from and thus include the limitations of Claim 1. Thus, Applicants submit that Claims 3 and 7 are patentably distinct over the cited references at least for the reasons discussed above in conjunction with Claim 1.

Applicants submit that Claim 3 is further patentably distinct over Gauthier et al, whether taken alone or in combination with Schwarz et al., Yu, and Marcus et al., since the cited references neither describe nor suggest "... the radar display is adapted to be portably attached to the interior of the vehicle," as set forth Claim 3.

Applicants submit that Claim 7 is further patentably distinct over Gauthier et al, whether taken alone or in combination with Schwarz et al., Yu, and Marcus et al., since the cited references neither describe nor suggest "...the attachment means is adapted to portably attach the side object detection radar transceiver to the interior of the vehicle," as set forth in amended Claim 7.

In Figs. 1 and 2, Marcus et al. describes displays 14a, 14b visible on a rear view mirror 20. The displays of Marcus are permanently attached.

In view of the above, Applicants submit that the rejection of Claims 3 and 7 under 35 U.S.C. §103(a) should be removed.

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Gauthier et al. in View of Schwarz et al., Yu, and Caine

The Examiner rejects Claims 5 and 9 under 35 U.S.C. §103(a) as being unpatentable over Gauthier et al. in view of Schwarz et al., Yu, and further in view of Caine (U.S. Patent number 4,600,913). The Examiner recognizes that Gauthier does not teach the claimed object detection radar transceiver is portably attached to a vehicle window. The Examiner relies upon Caine as teaching the claimed object detection radar transceiver is portably attached to a vehicle window. The Examiner concludes that "it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of mounting the transceiver device to the vehicle window, such as the device 10 mounted to a window that's disclosed by Caine... ."

Claims 5 and 9 depend from and thus include the limitations of Claim 1. Thus, Applicants submit that Claims 5 and 9 are patentably distinct over the cited references at least for the reasons discussed above in conjunction with Claim 1.

Applicants submit that Claim 5 is further patentably distinct over Gauthier et al, whether taken alone or in combination with Schwarz et al, Yu, and Caine, since the cited references neither describe nor suggest "...the attachment means is adapted to portably attach the side object detection radar transceiver to a vehicle window," as set forth in amended Claim 5. Applicants submit that Claim 9 is also further patentably distinct for similar reasons.

In FIG. 1, Caine describes "...the collision avoidance system...10 ...mounted on the top of the trunk lid 12 of the vehicle 14... ." (column 7, lines 6-9) in FIG. 3, Caine describes, "...a similar device 10 mounted on the shelf 22 behind the rear window 24 of the vehicle 24." (column 7, lines 26-28) At column 7, lines 31-34, Caine also describes "[t]he device could also be hung down, or could stand up in front of the rear window and/or attached to the rear window." However, Caine fails to describe or suggest the claimed attachment to portably attach to a window as claimed.

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In view of the above, Applicants submit that the rejection of Claims 5 and 9 under 35 U.S.C. §103(a) should be removed.

Gauthier et al. in View of Schwarz et al., Yu, and Schofield

The Examiner rejects Claims 6, 11, 12, 14, and 16 under 35 U.S.C. §103(a) as being unpatentable over Gauthier et al. in view of Schwarz et al., Yu, and further in view of Schofield et al. (U.S. Patent number 5,786,772). The Examiner recognizes that Gauthier et al. does not teach "...the claimed radar display disposed upon the radar transceiver..." The Examiner relies upon Schofield et al. as teaching the radar display disposed upon the radar transceiver. The Examiner concludes that "...it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of placing the display unit with the side radar monitoring detector, as disclosed by Schofield, with the system of Gauthier..."

Claims 6, 11, 12, 14, and 16 depend from and thus include the limitations of Claim 1. Thus, Applicants submit that Claims 6, 11, 12, 14, and 16 are patentably distinct over the cited references at least for the reasons discussed above in conjunction with Claim 1.

Applicants submit that Claim 11 is further patentably distinct over Gauthier et al, whether taken alone or in combination with Schwarz et al., Yu, and Schofield et al., since the cited references neither describe nor suggest "...the attachment means is adapted to portably attach the side object detection radar transceiver to the exterior of the vehicle so as to be visible to an occupant of the vehicle," as set forth in amended Claim 11.

Applicants submit that Claim 12 is further patentably distinct over Gauthier et al, whether taken alone or in combination with Schwarz et al., Yu, and Schofield et al., since the cited references neither describe nor suggest "...the attachment means is adapted to portably attach the side object detection radar transceiver to a vehicle window so as to be visible to an occupant of the vehicle," as set forth in amended Claim 12.

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In view of the above, Applicants submit that the rejection of Claims 6, 11, 12, 14, and 16 under 35 U.S.C. §103(a) should be removed.

Gauthier et al. in View of Schwarz et al., Yu, Schofield, and Marcus

The Examiner rejects Claim 10 under 35 U.S.C. §103(a) as being unpatentable over Gauthier et al. in view of Schwarz et al., Yu, Schofield et al., and further in view of Marcus et al. The Examiner recognizes that neither Gauthier et al. nor Schofield et al. teach "...the claimed radar transceiver is portably attached to the interior of the vehicle..." The Examiner relies upon Marcus et al. as teaching "...an information display located in the interior or exterior of the vehicle..." The Examiner concludes that "...it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of a radar display attached to the interior of the vehicle, as disclosed by Marcus, with the systems of Gauthier and Schofield..."

Claim 10 depends from and thus includes the limitations of Claim 1. Thus, Applicants submit that Claim 10 is patentably distinct over the cited references at least for the reasons discussed above in conjunction with Claim 1.

Applicants submit that Claim 10 is further patentably distinct over Gauthier et al., whether taken alone or in combination with Schwarz et al., Yu, and Schofield et al., since the cited references neither describe nor suggest "...the attachment means is adapted to portably attach the side object detection radar transceiver to the interior of the vehicle," as set forth in amended Claim 10.

In Figs. 1 and 2, Marcus et al. describes displays 14a, 14b visible on a rear view mirror 20. The displays of Marcus are permanently attached.

In view of the above, Applicants submit that the rejection of Claim 10 under 35 U.S.C. §103(a) should be removed.

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Gauthier et al. in View of Schwarz et al., Yu, and Dupay et al.

The Examiner rejects Claims 17 and 18 under 35 U.S.C. §103(a) as being unpatentable over Gauthier et al. in view of Schwarz et al., Yu, and further in view of Dupay et al. (US Patent number 6,252,497). The Examiner recognizes that neither Gauthier et al. nor Schwarz et al. teach "...the claimed attachment means comprising a bracket or fasteners to couple the side object detection [system] to a vehicle window... ." The Examiner relies upon Dupay et al. as teaching a towing unit "...mounted within the cab or any convenient place in which it may be monitored by the operator of a vehicle... ." The Examiner concludes "...it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of placing the object detecting device to a window and even the interior window of a vehicle... ."

Claims 17 and 18 depend from and thus include the limitations of Claim 1. Thus, Applicants submit that Claims 17 and 18 are patentably distinct over the cited references at least for the reasons discussed above in conjunction with Claim 1.

Applicants submit that Claim 17 is further patentably distinct over Gauthier et al, whether taken alone or in combination with Schwarz et al., Yu, and Dupay et al., since the cited references neither describe nor suggest "...the attachment means comprises a bracket to couple the side object detection radar transceiver to an interior of a vehicle window," as set forth in Claim 17.

Applicants submit that Claim 18 is further patentably distinct over Gauthier et al, whether taken alone or in combination with Schwarz et al., Yu, and Dupay et al., since the cited references neither describe nor suggest "...the attachment means comprises hook and loop fasteners to couple the side object detection radar transceiver to an interior of a vehicle window," as set forth in Claim 18. Applicants can find no mention in Dupay et al. of hook and loop fasteners.

Dupay et al., in FIG. 1, describes an adjustable support 14. Dupay et al. fails to describe or suggest the claimed "...attachment means coupled to the side object detection radar

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transceiver for portably attaching the side object detection radar transceiver to a vehicle," recited in Claim 1.

In view of the above, Applicants submit that the rejection of Claims 17 and 18 under 35 U.S.C. §103(a) should be removed.

In view of the above, Applicants submit that the rejection of Claims 1-18 under 35 U.S.C. §103(a) should be removed.

In view of the above Remarks, Applicants submit that Claims 1-18 and the entire case are in condition for allowance and should be sent to issue and such action is respectfully requested.

It is submitted that this amendment places the application in condition for allowance or in better form for consideration on appeal, and thus, entry of this amendment is respectfully requested under the provisions of 37 C.F.R. §1.116.

The Examiner is respectfully invited to telephone the undersigning attorney if there are any questions regarding this Response or this application.

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The Assistant Commissioner is hereby authorized to charge payment of any additional fees associated with this communication or credit any overpayment to Deposit Account No. 500845, including but not limited to, any charges for extensions of time under 37 C.F.R. §1.136.

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Respectfully submitted,

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